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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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05/24/2004

Thomas Stafford
4173 Rotherham Court
Palm Harbor, FL 34685

EXAMINER

BURD, KEVIN MICHAEL

ART UNIT

PAPER NUMBER

2631

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/551,078

Applicant(s)

LAROIA ET AL.

Examiner

Kevin M Burd

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 17-22 and 33-38 is/are rejected.
- 7) ☒ Claim(s) 7-16, 23-32 and 39-48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>6</u> . | 6) <input type="checkbox"/> Other: _____ |

1. This office action, in response to the amendment filed 3/12/2004, is a non-final office action.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 2/2/2004 is being considered by the examiner.

Response to Amendment

3. The previous objection to the specifications is withdrawn.

Applicant's arguments, see the amendment filed 3/12/2004 with respect to the rejections of the claims under 35 USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, new grounds of rejection are made in view of Baum et al (US 5,867,478), Greenstein et al (US 6,131,016) and Dogan et al (US 6,018,317).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3-6, 17, 19-22, 33, 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baum et al (US 5,867,478) in view of Greenstein et al (US 6,131,016).

Regarding claims 1, 17 and 33, Baum discloses a method and apparatus for use in a mobile OFDM user unit comprising a receiver (figure 14). The receiver receives pilot hopping tone sequences (column 11, lines 7-37). The pilot codes are shown in a grid format shown in figure 7. Baum does not disclose a detector for detecting the received pilot tone having the strongest power. However, Baum states, in column 11, lines 21-25, any techniques known in the art of implementing orthogonal hopping patterns can be applied to the pilot code selection process as part of the pilot code scheme.

Greenstein discloses, during a set up of communication between a base and a mobile, the receiving terminal compares the strengths of successive received pilot tones and determines which of the channels is currently carrying the strongest pilot tone. (column 4, lines 53-59). The hopping sequence will correspond to this base station's hopping sequence. It would have been obvious for one of ordinary skill in the art at the time of the invention to use the method of Greenstein for selecting the proper base station in the system and method of Baum. The pilot with the strongest power usually signifies that base station is the closest. Communication will continue with the closest base station for the longest time, on average, until a handoff is necessary.

Regarding claims 3, 4, 19, 20, 35 and 36, Baum discloses using a Fourier transform to process the received signal.

Regarding claims 5, 21 and 37, Greenstein discloses the strongest pilot signal is detected (column 4, lines 53-59).

Regarding claim 6, 21 and 38, the pilot tones are shown in figure 7 of Baum and any slope will be shown in the grid.

5. Claims 2, 18 and 34 are rejected under 35 U.S.C. 103(a) as being obvious over Baum et al (US 5,867,478) in view of Greenstein et al (US 6,131,016) further in view of Dogan et al (US 6,018,317).

Regarding claims 2, 18 and 34, Baum and Greenstein disclose the method and system stated above in paragraph 4. The combination does not disclose the use of Latin Squares base pilot tone hopping sequences. Dogan discloses the use of Latin Square to create a non-interfering hop sequence in a frequency hop spread spectrum system (column 57, lines 57-67). It would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate the Latin Square hopping pattern into the combination of Baum and Greenstein to allow a set of frequency hopping radios to communicate without the mutual interference by using the non-interfering hop sequences provided by the Latin Square property (column 57, lines 57-67).

Allowable Subject Matter

5. Claims 7-16, 23-32 and 39-48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact Information

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

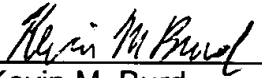
or faxed to:

(703) 872-9314, (for formal communications intended for entry or for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Burd, whose telephone number is (703) 308-7034. The Examiner can normally be reached on Monday-Thursday from 9:00 AM - 6:00 PM.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3800.


Kevin M. Burd
PATENT EXAMINER
5/19/04